

CHILDREN'S DRESS UP TOY CAPABLE OF OUTPUTTING A SOUND**BACKGROUND OF THE INVENTION**5 1. **Field of the Invention**

The present invention relates to clothing that is adapted to produce a musical sound. More particularly, it pertains to sound generating garments which, when actuated
10 by the wearer, will cause an audible sound to be produced.

2. **Description of the Prior Art**

Typically, garments are made with a view toward design
15 and appearance. Garments are designed for comfort, style, ornamentation, use in ceremonies, and protection against cold or heat. Since garments are generally only made with a view towards design or appearance, if a user wishes to listen to sounds or music while walking, playing, or
20 dancing, he would have to use or carry a separate music or sound producing device such as a portable cassette player, thereby restricting the activity and decreasing spontaneity.

Novelty items of clothing have been in existence for a

number of years. For example, it is well known in the art to provide various articles of clothing with movement sensing devices such that bodily movements actuate an electronic circuit. More specific examples are articles of clothing having electrodes. The electrodes pick up variations in bodily voltages caused by muscular contractions of the wearer of the article of clothing. The signals detected by the electrodes are sent to a muscular voltage processing circuit. In such an example, the output of the muscular voltage processing circuit is supplied as a control signal to a tone modifying circuit.

There are many inherent drawbacks with a device like the one described above. One particular disadvantage of the device is that it relies on electrodes to detect bodily movements. The electrodes are placed against the skin of the wearer at selected muscular areas of the body. As previously mentioned, the electrodes detect minute voltages produced by muscular contractions. Because of the low amplitudes of the voltages that are detected, the electronic circuit is highly sensitive to the location of the electrodes. Moreover, the circuit may be de-sensitized when the electrodes are mounted in an article of clothing, especially if the article is loose fitting. Optimally, the

electrodes should be placed against the skin with the aid of an electrically conductive paste or bonding tape. However, the person's mobility may be decreased if the electrodes are positioned in this fashion.

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A second disadvantage of a musical device such as the one described above is the complexity of the circuit. Inasmuch as the device relies on the detection of voltage variations produced by muscular contractions, a complicated signal processing circuit is necessary. The complex circuit required to detect voltages due to muscular contractions may increase the manufacturer's cost of producing the device and may significantly add to the weight and size of the device. The voltage detection and manufacturing problems may be compounded if the circuit is mounted in an article of clothing that is worn by the player, rather than mounted in a separate housing.

There exists the need for a garment that can receive a removable music or sound device, and that can be turned on and off manually, as well as provide for motion activation. There exists a particular need for children's musical dress up clothing, accessories and toys for pretend play, which stimulate the child's imagination and provide for the

spontaneous enjoyment of music or sound. This allows for "music-on-the-go" and is ideal for children to dance along with.

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SUMMARY OF THE INVENTION

It is an object of the present invention to provide a toy garment capable of generating a sound.

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It is another object of the present invention to provide a toy garment having an article of dress and a sound generating member that emits a sound in response to actuation of one or more actuator switches.

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It is yet another object of the present invention to provide a toy garment capable of generating a sound having a sound generating member with a first actuator switch and a second actuator switch, and an article of dress having a device for receiving the sound generating member.

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It is still another object of the present invention to provide such a toy garment, where the sound generating member is removably connected to the article of dress.

It is another object of the present invention to provide such a toy garment, where the article of dress has a pocket for receiving the sound generating member.

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It is yet another object of the present invention to provide such a toy garment capable of generating a sound that has an article of dress and a sound generating member having an integrated circuit chip, an amplifier, a power
10 supply, an actuator switch and an outer housing, where the sound generating member emits a sound in response to actuation of the actuator switch.

It is still yet another object of the present invention
15 to provide such a toy garment, where the article of dress is a skirt, a dress, a shirt, pants, a hat, a crown, a shoe, jewelry, or a pocketbook.

It is a further object of the present invention to
20 provide such a toy garment, where the sound generating member emits music, voice, articulation, audible vibration, or any combinations thereof.

It is a still further object of the present invention to provide such a toy garment, where the sound generating member emits interchangeable prerecorded sound.

- 5 It is yet a further object of the present invention to provide such a toy garment, where the first actuator switch is activated by manual depression.

- 10 It is still yet a further object of the present invention to provide such a toy garment, where the second actuator switch is actuated by motion of the sound generating member.

- 15 It is another object of the present invention to provide such a toy garment, where the sound generating member emits sound in response to motion of the sound generating member, preferably after manual actuation of the first actuator switch.

- 20 It is still another object of the present invention to provide such a toy garment, where the sound generating member ceases to emit sound after a period of non-motion, preferably the period of non-motion is adjustable.

It is yet another object of the present invention to provide such a toy garment, where manual actuation and deactuation of the first actuator switch override motion activation of the sound generating member.

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It is still another object of the present invention to provide such a toy garment, where the sound generating member has lights.

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These and other objects and advantages of the present invention are achieved by a toy garment capable of generating a sound. The garment is an article of dress having a pocket and a sound generating member that can be removably inserted into the pocket. The sound generating member has an integrated circuit chip, an amplifier, a power supply, a first actuator switch and an outer housing. The sound generating member emits a sound in response to actuation of the first actuator switch and motion.

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BRIEF DESCRIPTION OF THE DRAWINGS

These and other embodiments of the present invention will be appreciated by referring to the drawings that

include

Fig. 1 is a plan view of the toy garment capable of generating a sound of the present invention;

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Fig. 2 is a perspective view of a sound generating member for the toy garment capable of generating a sound of the present invention;

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Fig. 3 is a perspective view of an alternative embodiment of the sound generating member for the toy garment capable of generating a sound of the present invention;

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Fig. 4 is a plan view of an alternative embodiment of the toy garment capable of generating a sound of the present invention

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Fig. 5 is a perspective view of a pocket for the toy garment capable of generating a sound of the present invention;

Fig. 6 is an exploded view of a sound generating member for the toy garment capable of generating a sound of the

present invention;

Fig. 7 is a plan view of a second alternative
embodiment of the toy garment capable of generating a sound
5 of the present invention;

Fig. 8 is a plan view of a third alternative embodiment
of the toy garment capable of generating a sound of the
present invention; and

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Fig. 9 is a plan view of a fourth alternative
embodiment of the toy garment capable of generating a sound
of the present invention.

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DETAILED DESCRIPTION OF THE INVENTION

Referring to the figures and particularly to Fig. 1,
there is shown a toy garment capable of generating a sound
20 generally represented by reference numeral 10. In a
preferred embodiment shown in Fig. 1, toy garment 10 has an
article of dress 20 and a sound generating member 30 that
can be removably connected to article of dress 20.

As shown in Fig. 1, article of dress 20 is preferably a skirt having a pocket 50 sewn or otherwise connected to a waistband 23 that can receive sound generating member 30. However, article of dress 20 can be any type of wearable
5 article or dress accessory. Such wearable articles or dress accessories include, but are not limited to, skirt, dress, shirt, pants, hat, crown, shoe, jewelry, or pocketbook. As shown in Fig. 1, pocket 50 is preferably sewn or otherwise connected to an interior surface of waistband 23. As shown
10 in Fig. 2, sound generating member 30 is preferably generally rectangular-shaped. Preferably, pocket 50 corresponds generally to the overall shape and dimensions of sound generating member 30, but is slightly larger in circumference in order to sleeve over the sound generating
15 member.

In another aspect of the present invention, article of dress 20 does not have a pocket. In this aspect, sound generating member 30 can be connected directly onto article
20 of dress 20 by any conventional attachment method without having to be inserted into a pocket (not shown). Such methods include, but are not limited to, clip or Velcro. Sound generating member 30 can be removably clipped onto or permanently molded into article of dress 20. These methods

of connection eliminate the need for pocket 50. In still another aspect of the present invention as shown in Fig. 3, sound generating member 30 optionally may have some ornamental shape, such as that of a flower.

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In yet another aspect of the present invention as shown in Fig. 4, pocket 50 is sewn or otherwise connected to an exterior surface of waistband 23. In this aspect, article of dress 20 can have a decorative trim 25 such as a feather
10 boa sewn. Also, connection can be along the exterior circumference of pocket 50.

As shown in Fig. 5, sound generating member 30 preferably can be inserted into pocket 50 through a first
15 opening 52 on a surface of the pocket. Preferably, pocket 50 opens from the top. First opening 52 can be accessed and closed by any conventional fabric closure method. Such methods include, but are not limited to snap, Velcro, or a zipper. Therefore, sound generating member 30 may be easily
20 removed from inside pocket 50. Pocket 50 optionally may have a second opening 55 on an exterior pocket surface thereby providing access to a portion of sound generating member 30, while the sound generating member is inside the pocket.

As shown in Figs. 2 and 6, sound generating member 30 preferably has a two-piece rigid outer housing 32, having a first housing portion 35 and a second housing portion 36.

5 Preferably, outer housing 32 houses an amplifier 38.

Preferably, the two housing portions 35, 36 are removably connected together to form a unitary outer housing 32 by standard fastening means. One or more conventional screws 43 may be used to connect housing portions 35, 36 and the
10 internal components. Preferably, outer housing 32 may be opened to provide access to its internal components.

Outer housing 32 may be formed from any rigid material. Preferably, outer housing 32 is formed from a thermoplastic,
15 a thermoset material, a rigid material, a resilient material, a composite material, or any combinations thereof. More preferably, outer housing 32 is formed from high impact polystyrene porene HI650 (HIPS).

20 As shown in Figs. 2 and 6, there is a plurality of groove openings 39 and a hole 40 on the exterior surface of housing portion 35. Hole 40 can allow access to a switch button 41 that protrudes outside hole 40 from the interior of outer housing 32. Preferably, switch button 41 is held

in place within hole 40 by a cylindrical support member 42. Groove openings 39 may be holes instead of grooves. Amplifier 38 is positioned so that it is aligned directly under groove openings 39.

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As shown in Fig. 6, outer housing 32 preferably also houses an integrated circuit board or chip 45, as well as a battery compartment 47, to hold one or more batteries that serve as the power source for sound generating member 30.

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Switch button 41 preferably is connected by standard electrical means to integrated circuit chip 45 and battery compartment 47. When depressed, switch button 41 activates or deactivates sound generating member 30 to either an on or
15 off state, respectively. Amplifier 38 is also connected by standard electrical device or means to integrated circuit chip 45. When activated, sound generating member 30 can produce a sound recording that is stored on integrated circuit chip 45. Such prerecorded sound includes, but is
20 not limited to, music, voice, articulation, audible vibration, or any combination thereof. As shown in Fig. 5, in another aspect of the present invention, optional pocket 50 may have a second opening 55 for amplifier 38, to allow

for better sound amplification and for easy tactile access to switch button 41 and sound generating member 30.

As shown in Fig. 6, sound generating member 30
5 preferably has a motion activated trigger 60. More preferably, motion activated trigger 60 is a spring cylinder. Motion activated trigger 60 is actuated in response to movement or motion of sound generating member 30. When switch button 41 is actuated, any actuation of
10 motion activated trigger 60 causes sound generating member 30 to emit sound. More specifically, when switch button 41 is actuated or in an on position and when there is a movement, motion activated trigger 60 will be moved to contact a sensor on integrated circuit chip 45, thereby
15 triggering the production of sound. Consequently, sound generating member 30, with both switch button 41 and motion activated trigger 60 actuated, emits sound in response to motion, and continues to emit sound while motion of the wearer is detected. Sound generating member 30 will cease
20 to emit sound after a predetermined period of non-movement or after switch button 41 is deactuated. Preferably, the period of non-movement that will cause cessation of sound will range from about 10 to about 60 seconds, and more preferably from about 15 to about 45 seconds. Preferably,

the non-movement time period required for cessation of sound is adjustable. Sound generating member 30 will be activated by motion, and can be manually turned on or off by depressing switch button 41. Sound generating member 30 will produce sound as long as switch button 41 is actuated and as long as motion is detected. The production of sound will stop after motion is no longer detected, and after the predetermined non-movement time period has expired. Preferably, however, manual actuation and deactuation of switch button 41 override motion activation of sound generating member 30. This manual override prevents sound generating member 30 from playing when it is not intended to. Therefore, toy garment 10 may be used and enjoyed with or without sound or music.

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In another aspect of the present invention, sound generating member 30 is not motion activated. Rather, the sound is activated by actuating switch button 41 and continues to play until switch button 41 is deactuated. Thus, sound generating member 30 can be manually turned on or off by depressing switch button 41. This aspect does not require motion or actuation of a motion activated trigger for sound generating member 30 to produce sound. In this aspect, article of dress 20 can be any type of wearable

article or dress accessory. Such wearable articles or dress accessories include, but are not limited to, skirt, dress, shirt, pants, hat, crown, shoe, or jewelry.

5 In yet another aspect of the present invention, varying swappable integrated circuit chips 45 are used in sound generating member 30, thereby permitting for interchangeable prerecorded sound. Therefore, a variety of interchangeable music, sound, and voices are available.

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 In yet another aspect of the present invention, toy garment 10 includes lights (not shown) on sound generating member 30. The lights further stimulate the wearer's imagination.

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 In still another aspect of the present invention, toy garment 10 is miniaturized for a doll (not shown).

 In an alternative embodiment shown in Fig. 7, optional
20 pocket 50 and decorative trim 25 are sewn in the shape of a flower.

 In another alternative embodiment shown in Fig. 8, pocket 50 and decorative trim 25 are sewn in a decorative

shape. In this embodiment, article of dress 20 is a grass skirt made from colored plastic. Sound generating member 30 plays Hawaiian music in this embodiment.

5 In yet another alternative embodiment shown in Fig. 9, decorative trim 25 is made from black faux fur or faux leather. In this embodiment, article of dress 20 is a skirt made from red velvet and has a white faux fur trim 27. In this embodiment, sound generating member 30 plays Christmas
10 or holiday music.

The present invention having been thus been described with particular reference to the preferred forms thereof, it will be obvious that various changes and modifications may
15 be made therein without departing from the spirit and scope of the present invention as defined in the appended claims.